



Paper Robot Hand

Written By: Chris Connors



TOOLS:

- [Needle \(1\)](#)
- [Scissors \(1\)](#)
- [Stapler \(1\)](#)
- [paper, pencil, other drawing materials \(1\)](#)



PARTS:

- [File folder \(1\)](#)
- [8-1/2x11 in. construction paper \(1\)](#)
- [Tape, clear adhesive \(1\)](#)

SUMMARY

This project is based on the one on pages 60-61 in [Kathy Ceceri's book on Robotics](#).

To see more photos and information, check the [Flickr set](#).

Step 1 — Paper Robot Hand



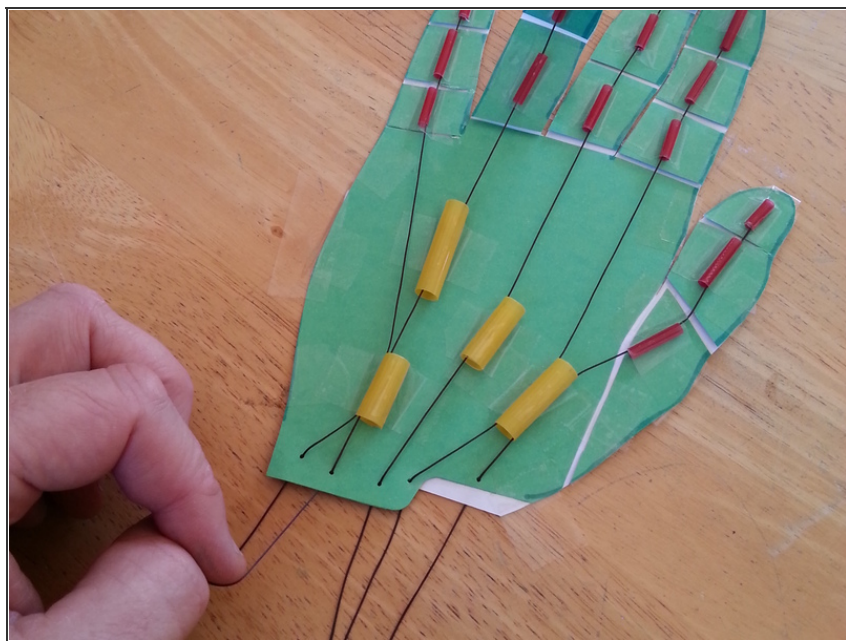
- Trace your hand onto a quarter sheet of file folder. Tape or staple a half sheet of printer paper behind the traced hand. Cut the traced hand out. Tape the file folder fingers to the paper backing as you cut out the tracing.
- When the hand is cut out, the paper and folder should be lined up and cut accurately. Mark the location of the knuckles. Cut " " from the file folder at each knuckle, making sure each segment stays in place.
- Experiment with the location of the straws in the hand area. Checking with your hand anatomy textbook may influence their placement.

Step 2



- Cut the straws into segments that are shorter than the finger segments. Tape them down to the finger segments on the file folder side.
- Use the needle to poke through the finger tip, and guide the thread through the straws you've taped in place. Tape the end of the thread to the back of the finger tip. Make a slot down at the wrist to hold the thread and keep it from tangling with the others.

Step 3



- **Operate the hand:** Pull the strings, and your fingers will move. When you let go, they will fall back. You can pull on several, all or just one string to operate the fingers.
- You may need to tape the hand down to a table or board for single-handed operation.

Step 4

- **Extensions:** Attach your robotic hand to a yard stick and bring the strings down.
- Rebuild the hand with more robust materials, such as wood, fabric, report cover plastic, PVC pipe, tubes made of ball-point pen parts and more.
- Use 3D printed parts for the hand. Operate the finger movements with more rigid elements, such as guitar string or craft wire.
- Motorize the movement with solenoids, servos or DC motors. Use a microcontroller to operate the finger movement.
- Create a remote control with another hand and a [Makey Makey](#) and have your friend operate it from another country.

This document was last generated on 2012-11-19 07:26:29 PM.